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10/541,192	06/30/2005	Pascal Bisson	4590-431	7753
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LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER	
			GODBOLD, DOUGLAS	
		ART UNIT	PAPER NUMBER	
		2626		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,192	<b>Applicant(s)</b> BISSON ET AL.
	<b>Examiner</b> DOUGLAS C. GODBOLD	<b>Art Unit</b> 2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 September 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/DS/02)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office Action is in response to correspondence filed September 2, 2009 in reference to application 10/541,192. Claims 1-13 are pending and have been examined.

***Response to Amendment***

2. The amendment filed September 2, 2009 has been accepted and considered in this office action. Claim 1 has been amended.

***Response to Arguments***

3. Applicant's arguments filed September 2, 2009 have been fully considered but they are not persuasive.

4. Regarding applicant's arguments, see Remarks page 5, that Monaco does not teach the new limitations of claim 1, the examiner agrees. However, the examiner believes that Acero suggests these limitations as laid out in the rejection below.

5. Regarding applicant's arguments, see Remarks pages 5 and 6, that Meng cannot be combined with Acero and Monaco, the examiner respectfully disagrees. Meng was relied upon only to teach revising phrase models, not a clustering method. One of ordinary skill in the art could appreciate the benefits of revising a language model, even

though the model is not a cluster model found in Meng. Thus, the teachings of Meng regarding revision can be combined with the system of Acero and Monaco.

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acero et al. (Grammar Learning for Spoken Language Understanding) in view of Meng et al. (Semi-Automatic Acquisition of Domain-Specific Semantic Structures) and further in view of Monaco (US Patent 6,434,523).

8. Consider claim 1, Acero teaches a method for production of a speech recognition interfaces interface for a domain specific to an applied field (abstract), comprising:  
manually building a conceptual model using two main knowledge sources comprising generic syntactic and semantic grammar and basic vocabulary by manually describing resources specific to the application (Section 2.1 developers author semantic schema that describes resources of the application. Section 2.3 shows that developers manually annotate sentences, which develops the syntactic model. In order to do this they must have knowledge of basic grammar library 2.2 and vocabulary as well. Any developer will have basic vocabulary knowledge for the language in which they are developing the speech system. ),

producing a set of generic grammar rules representative of a class of applications (Section 3.1 semantic constrains are determined from the semantic schemas. Section 4, based on semantic classes, paragraph 2.).

computing the syntactic and semantic grammar and the vocabulary specific to the applied field (Section 3.1 semantic constrains are determined from the semantic schemas. Section 4, based on semantic classes, paragraph 2),

inputting the conceptual model to the speech recognition interface for the applied field (semantic schemas must be entered by developer, section 2.1, and annotation 2.3. input can be domain specific section 2.4), and

exemplifying different generic grammar rules whose constraints are satisfied producing grammar for the applied field concerned from the exemplified generic grammar and from a conceptual model (section 4, paragraph 3 shows different inputs that were automatically labeled. These are examples of the grammar rules applied to the specific applied field., in this case, calendar scheduling ).

Acero does not specifically teach revising phraseology.

In the same field of semi-automatic grammar rule development, Meng teaches revising phraseology (section VII Post-processing includes replacing tags with meaningful labels, consolidating grammar categories, etc.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the revisions of Meng with the system of Acero in order to allow for errors to be corrected manually in order for the resultant grammar to more accurately reflect the domain (Meng page 2 paragraph 4).

Acero and Meng do not specifically teach producing explanations of the conceptual model.

In the same field of grammar creation, Monaco teaches producing explanations (grammar specific language objects) of the conceptual model (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the visual models of Monaco with the system of Acero and Meng in order to allow a representation that allows easier understanding and editing of the grammars; column1 line 59-62).

9. Consider claim 2, Meng teaches the method as claimed in claim 1, wherein the data input is revised and the terms contrary to the semantics of the application concerned are corrected (section VII Post-processing includes pruning irrelevant non-terminals and terminals).

10. Consider claim 3, Meng teaches the method as claimed in claim 1, wherein the data input is revised and new terms are added to enrich the grammar of the applied field (section VII Post-processing includes completing a set of terminals for some categories like days of the week.).

11. Consider claim 4, Monaco teaches the method as claimed in claim 1, wherein the explanations explain rules applied when generating the grammar specific to the applied

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field (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).

12. Consider claim 5, Acero teaches a device for automatic production of speech recognition interfaces for a domain specific to an applied field (abstract), comprising:

a user interface (inherent in order to enter semantic schema) for manually building a conceptual model using two main knowledge sources comprising generic grammar and basic vocabulary (Section 2.1 developers author semantic schema. In order to do this they must have knowledge of basic grammar library 2.2 and vocabulary as well. Any developer will have basic vocabulary knowledge for the language in which they are developing the speech system.),

means for conceptual model input (inherent for developer to author schema),

derivation means (Section 3.1 semantic constrains are determined from the semantic schemas. Section 4, based on semantic classes, paragraph 2),

means for providing a generic model (section 3.1, grammar learning is to learn the expression of pre-terminals like heads commands preambles etc. this is generic grammar information) and

means executing grammar specific to the applied field concerned (experimental results section 4, semi-automatically derived grammar is used to parse sentences. Fig 5 shows resulting error rate).

Acero does not specifically teach revising phraseology.

In the same field of semi-automatic grammar rule development, Meng teaches revising phraseology (section VII Post-processing includes replacing tags with meaningful labels, consolidating grammar categories, etc.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the revisions of Meng with the system of Acero in order to allow for errors to be corrected manually in order for the resultant grammar to more accurately reflect the domain (Meng page 2 paragraph 4).

Acero and Meng do not specifically teach the user interface being configured for displaying and producing explanations of the conceptual model.

In the same field of grammar creation, Monaco teaches displaying and producing explanations (grammar specific language objects) of the conceptual model (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the visual models of Monaco with the system of Acero and Meng in order to allow a representation that allows easier understanding and editing of the grammars; column1 line 59-62).

13. Consider claim 6, Meng teaches the device as claimed in claim 5, wherein further comprising revision means (section VII Post-processing).

14. Consider claim 7, Meng teaches the device as claimed in claim 5, wherein further comprising explanation means (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).
15. Consider claim 8, Meng teaches the method as claimed in claim 2, wherein the data input is revised and new terms are added to enrich the grammar of the applied field (section VII Post-processing includes completing a set of terminals for some categories like days of the week.).
16. Consider claim 9, Monaco teaches the method as claimed in claim 2, wherein the explanations explain rules applied when generating the grammar specific to the applied field (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).
17. Consider claim 10, Monaco teaches the method as claimed in claim 3, wherein the explanations explain rules applied when generating the grammar specific to the applied field (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).
18. Consider claim 11, Monaco teaches the device as claimed in claim 5, wherein the explanations explain rules applied when generating the grammar specific to the

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applied field (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).

19. Consider claim 12, Meng teaches the device as claimed in claim 6, wherein further comprising explanation means (Col. 6 lines 16-21 and col. 3 lines 61-66, graphical representation of grammar rules are developed).

20. Consider claim 13, Acero teaches a method for producing a speech recognition interface for a domain specific to a selected application (abstract) comprising:

describing, using manual input means, the resources specific to the selected application, by verbalizing concepts using a formal model of the selected application to establish a conceptual model and the vocabulary of the selected application (Section 2.1 developers author semantic schema. In order to do this they must have knowledge of basic grammar library 2.2 and vocabulary as well. Any developer will have basic vocabulary knowledge for the language in which they are developing the speech system. Developers use an XML based approach that sets up what is needed for the application.),

using derivation of the specific resources and generic resources to compute a linguistic model and vocabulary of sub-language dedicated to the speech recognition interface for said application when the resources specific to the application are acquired (Section 3.1 semantic constrains are determined from the semantic schemas. Section 4, based on semantic classes, paragraph 2),

inputting a set of statements of this sub-language, as well as the knowledge relating to the application and needed to manage an operator-system dialog (section 4, experimental sentences are used to test the system, in this case relating to date and calendars.), and

executing the resulting speech recognition interface on an selected environment to validate the interface (Figure 5 shows recognition result errors using the grammar semi-automatically determined.).

Acero does not specifically teach displaying and revising all or some of the input sub-language in order for a user to refine phraseology of this input by adding, deleting or modifying the phraseology.

In the same field of semi-automatic grammar rule development, Meng teaches revising phraseology by adding, deleting or modifying the phraseology (section VII Post-processing includes replacing tags with meaningful labels, consolidating grammar categories, completing terminals, removing irrelevant terminals.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the revisions of Meng with the system of Acero in order to allow for errors to be corrected manually in order for the resultant grammar to more accurately reflect the domain (Meng page 2 paragraph 4).

Acero and Meng do not specifically teach producing explanations which make it possible to automatically identify conceptual and vocabulary data input by the user from which a given characteristic of a statement or a set of statements of the sub-language originates,

In the same field of grammar creation, Monaco teaches producing explanations (grammar specific language objects) which make it possible to automatically identify conceptual and vocabulary data input by the user from which a given characteristic of a statement or a set of statements of the sub-language originates.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the visual models of Monaco with the system of Acero and Meng in order to allow a representation that allows easier understanding and editing of the grammars; column1 line 59-62).

### ***Conclusion***

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS C. GODBOLD whose telephone number is (571)270-1451. The examiner can normally be reached on Monday-Thursdays 7:00am-4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DCG

/Richemond Dorvil/  
Supervisory Patent Examiner, Art Unit 2626